

TABLE I  
GEOGRAPHIC AREAS OF 70 RARE SPECIES CLASSIFIED BY HABITAT IN COOK COUNTY

	Arctic-boreal				Temperate						Endemics		Southern N. A.
	Circumpolar	Amer-asian	Amphiatlantic	American	Circumpolar	Amphiatlantic	American	East American	Mid-American	West American	Great Lakes	Cook County	
a) Cold wet shore rocks	8		2	4*							1		
b) Gravelly and cobbly beaches	1						2						
c) Shady moist cliffs and ravines	7	3	1	4	1		2	3		1		2	
d) Exposed dry cliffs	1	1		2		1		1	2				1
e) Portage trails, ditches, etc.	2			3	1		1	3		3			
f) Aquatic habitats	1			2		2†	1						
Totals	20	4	3	15	2	3	4	9	2	4	1	2	1

\* including an east- and a mid-American  
† boreal-temperate

Lake Superior and its predecessors have left these areas available for plant occupation. Nor can any of these species be dismissed as "relics" in the long accepted and Fernaldian sense of the term because until the northward retreat of the Rainy Lobe their present habitats were occupied by ice. The geological evidence clearly shows that the Arrowhead enclave has been available for occupation by plants only since late Rainy Lobe (Cary) time—presumably something more than 11,000 years ago.

The only common characteristics of the habitats in which our rarities occur are their limited extent, a newness which is perpetuated in any of a variety of ways, and the absence of effective biotic competition. They seem to represent the remnants of a sort of pioneer fringe. It is pertinent now to attempt a reconstruction of how these species, as well as the commoner elements of the Cook County flora, may have come to occupy their present places.

(To be continued)

ANIMADVERSIONS AND OTHER NOTES ON ARNICA.<sup>1</sup>—The specimens cited in this text are preserved in the following herbaria: DAO—Department of Agriculture, Ottawa, Canada. Lep—Private herbarium of Father Ernest Lepage, Rimouski, Prov. of Quebec, Canada.

<sup>1</sup> Contribution No. 1210, from the Division of Botany and Plant Pathology, Science Service, Department of Agriculture, Ottawa, Canada.

ARNICA ATTENUATA Greene, *A. sornborgeri* Fern. var. *ungavensis* Boivin, Nat. Can. **75**: 211. 1949. As more Ungava specimens of this species gradually accumulate in our herbaria, it becomes clearer that var. *ungavensis* belongs with *A. attenuata* rather than with *A. sornborgeri*. The monocephalous condition, characteristic of the syntypes of var. *ungavensis*, is more common in Ungava than in the rest of the range.

The distribution map published in *Brittonia* **4**: 409. 1943 should be corrected as follows: the range of *A. sornborgeri* should be restricted to Labrador proper: the range of *A. attenuata* should be extended continuously across Northern Ontario eastward to include most of the Ungava territory, both its coastal region and much of the interior.

In the eastern part of its range *A. attenuata* appears to be the characteristic species of the flats and flood plains of the major watercourses.

ARNICA FRIGIDA Meyer var. **glandulosa** var. n. Tegulis et hypocephalo elanatis sed minute glandulosis. Tegulae summae glabrae. Yukon: *J. A. Calder 3767*, about 20 miles east of Dawson on road to McQuesten, steep rocky slope by Klondike River, flowers yellow, occasional, July 17, 1949 (DAO type).

Similar to typical *A. frigida* Meyer in its general appearance and technical characters, but the lanosity of the tegules and of the hypocephalum is completely lacking, being replaced by a fine glandulosity.

ARNICA FULGENS Pursh. New to Manitoba: *Dore & Lindsay 11,108*, Souris District, Bede, conspicuous patches in full bloom on natural prairie, June 27, 1950 (DAO); *Dore & Lindsay 11,016*, Souris District, 10 miles south of Melita, growing in circular patches about 30 cm across in native prairie near bank of the Souris River, June 23, 1950 (DAO); *Dore & Lindsay 11,060*, Souris District, Medora, moist prairie pasture, June 26, 1950 (DAO).

ARNICA LESSINGII (T. & G.) Greene, *A. porsildiorum* Boivin, Nat. Can. **75**: 210. 1949. Prompted by a note in *Brittonia* **4**: 488. 1943 that the type had not been seen and was presumably preserved in the Greene Herbarium, prompted also by the necessity of clearing some bibliographic and taxonomic difficulties in the interpretation of this species, I published in the

Nat. Can. **75**: 209–210. 1949 a note in which I selected as type of this species the Chamisso collection from Saint Lawrence Bay, cited by Lessing in his report on the Synanthereae of the Romansoff Expedition.

Soon after, Dr. Bassett Maguire published in vol. **52**: 281–3. 1950 of this journal a short paper, entitled “On the application of the name *Arnica lessingii* (Torrey & Gray) Greene,” in which he selected again a new type for this entity.

Apparently both of us had overlooked an earlier and apparently quite satisfactory typification by Rydberg, North Am. Fl. **34**: 328. 1927. The earlier typification by Rydberg must stand unless demonstrably in error. It appears to be identical with that of Maguire and therefore the synonymy given in *Rhodora* **52**: 283. 1950 must stand as substantially correct.

ARNICA PLANTAGINEA Pursh. Range extension:—Quebec, Ungava: *E. Lepage* 14,598, rivière aux Mélèzes, calcaires dolomitiques, 10 août 1945 (DAO); *Dutilly, Lepage & Duman* 28,234, rivière aux Mélèzes, Big Dolomite Hill, lat. 57° 35', sur dolomie émiettée, 25 août 1951 (DAO); *Dutilly, Lepage & Duman* 28,211, mont au sud de la rivière aux Mélèzes, 13 miles en haut de la fourche, lat. 57° 35', sur tablette de roc magnésien, 23 août 1951 (Lep).

This species appears to be confined to magnesian and dolomitic outcrops.—BERNARD BOIVIN, DIVISION OF BOTANY AND PLANT PATHOLOGY, DEPARTMENT OF AGRICULTURE, OTTAWA, CANADA.

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A NEW HAMPSHIRE STATION FOR *HETERANTHERA DUBIA* (Jacq.) MacM.—Among the many new stations for aquatics discovered in the recent New Hampshire State Fish and Game Departments, “Wildfowl Waterways Survey” is one for *Heteranthera*, Post Pond, Lyme, Grafton Co., September 11, 1947, Krochmal. In a considerable series of specimens of “Potamogeton” set aside in the autumn of 1950 for critical study was this Post Pond collection which defied for a time all attempts at identification. Mr. Paul Giguere, now at Cornell University, while making a preliminary visit there accompanied a field class to Hatch Lake in Easton, New York on November 3, 1950. *Heteranthera dubia* was one of the aquatics collected during that